



STIC Search Report

EIC 1700

STIC Database Tracking Number: 135777

TO: Dawn Garrett
Location: REM 10A54
Art Unit : 1774
October 22, 2004

Case Serial Number: 10/644872

From: Kathleen Fuller
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov

Search Notes

There were 39 structures from the query. 35 of the structure answers had incomplete iterations which means that the system ran out of time while comparing the structure to the query and just throws the "inc" in with the other good answers. Some times the incompletes are actually good answers but in this case none of them were good. I scanned them all for you. Of the remaining 4 "good" structures there was only one CA reference on utility and it was the applicant. There were 17 other CA references with no utility specified And I printed those with the structures.

Access DB# 135777

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 10/21/04
Art Unit: 1774 Phone Number: 272-1523 Serial Number: 10/644 872
Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL

Rosen 10A54

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Light Emitting Element

Inventors (please provide full names): _____

TOSHIHIRO ISEEarliest Priority Filing Date: 8/22/02 Japan 2002-241662

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search a compound consisting only of carbon, fluorine and silicon in an electroluminescent device
(please note: hydrogen may be present, but only in an amount of 2 hydrogen atoms per six carbon atoms)

See attached claims.

thank you

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>K. Fuller</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>1</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>10/22/04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>30</u>	Other _____	Other (specify) _____

=> FILE REG

FILE 'REGISTRY' ENTERED AT 15:44:31 ON 22 OCT 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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STRUCTURE FILE UPDATES: 20 OCT 2004 HIGHEST RN 766487-31-4
DICTIONARY FILE UPDATES: 20 OCT 2004 HIGHEST RN 766487-31-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 15:44:36 ON 22 OCT 2004
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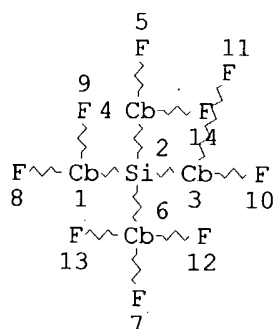
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FILE COVERS 1907 - 22 Oct 2004 VOL 141 ISS 17
FILE LAST UPDATED: 20 Oct 2004 (20041020/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

L48 STR



39 structures from this
Query

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L50 39 SEA FILE=REGISTRY SSS FUL L48
L52 51 SEA FILE=HCAPLUS ABB=ON L50
L53 1 SEA FILE=HCAPLUS ABB=ON L52 AND (EL OR ?LUMINES? OR LIGHT?(3A)
?EMIT?)

51 CA references

only one CA reference on
utility and it is
the applicant

=> D L53 BIB ABS IND HITSTR

L53 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:182323 HCAPLUS
DN 140:225531
TI **Light-emitting** elements comprising compound consisting
essentially of carbon, fluorine and silicon
IN Ise, Toshihiro
PA Fuji Photo Film Co., Ltd., Japan
SO U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004043250	A1	20040304	US 2003-644872	20030821
	JP 2004103577	A2	20040402	JP 2003-297392	20030821
PRAI	JP 2002-241662	A	20020822		

OS MARPAT 140:225531

AB **Light-emitting** elements are described which comprise
at least one organic layer which includes a **light emitting**
layer, and which is disposed between a pair of electrodes, where at least
one layer of the at least one organic layer contains at least one compound
consisting essentially of carbon, fluorine and silicon.

IC ICM H05B033-12

NCL 428690000; 428917000; 313504000; 313506000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)

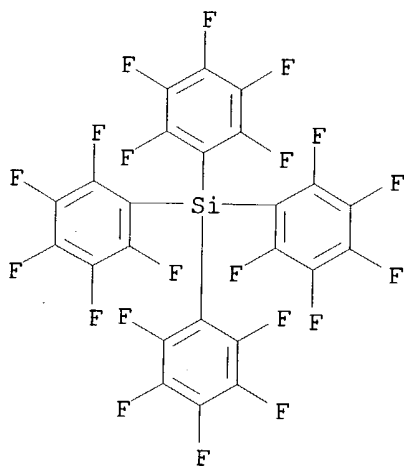
- Section cross-reference(s): 22, 76
- ST **electroluminescent** device carbon fluorine silicon compd; fluoro aryl silicon OLED
- IT Electric heating
(deposition; **light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon formed by)
- IT Electric conductors
(electron transporting material; **light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon)
- IT **Electroluminescent** devices
(**light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon)
- IT Coating process
(**light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon formed by)
- IT Phosphorescent substances
(**light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon, and)
- IT Transition metal complexes
RL: DEV (Device component use); USES (Uses)
(phosphorescent material; **light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon, and)
- IT Vapor deposition process
(resistance heating; **light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon formed by)
- IT **1524-78-3P**
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(**light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon)
- IT 363-72-4, Pentafluorobenzene 10026-04-7, Tetrachlorosilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(**light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon prepared using)
- IT 370878-69-6
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(**light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon, and)
- IT 25067-59-8, Poly(N-vinylcarbazole) 65181-78-4, [N,N'-Diphenyl-N,N'-di(m-tolyl)benzidine] 123847-85-8, α -NPD 148044-07-9 155090-83-8, Baytron P **665048-61-3**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon, and)
- IT 349666-25-7
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**light-emitting** material; **light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon, and)
- IT 7440-06-4D, Platinum, complex
RL: DEV (Device component use); USES (Uses)
(phosphorescent material; **light-emitting** elements comprising compound consisting essentially of carbon, fluorine and silicon, and)

IT 7440-15-5D, Rhenium, complex 7440-18-8D, Ruthenium, complex
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (phosphorescent material; **light-emitting** elements
 comprising compound consisting essentially of carbon, fluorine and
 silicon, and)

IT 1524-78-3P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
 preparation); PREP (Preparation); USES (Uses)
 (**light-emitting** elements comprising compound
 consisting essentially of carbon, fluorine and silicon)

RN 1524-78-3 HCAPLUS

CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

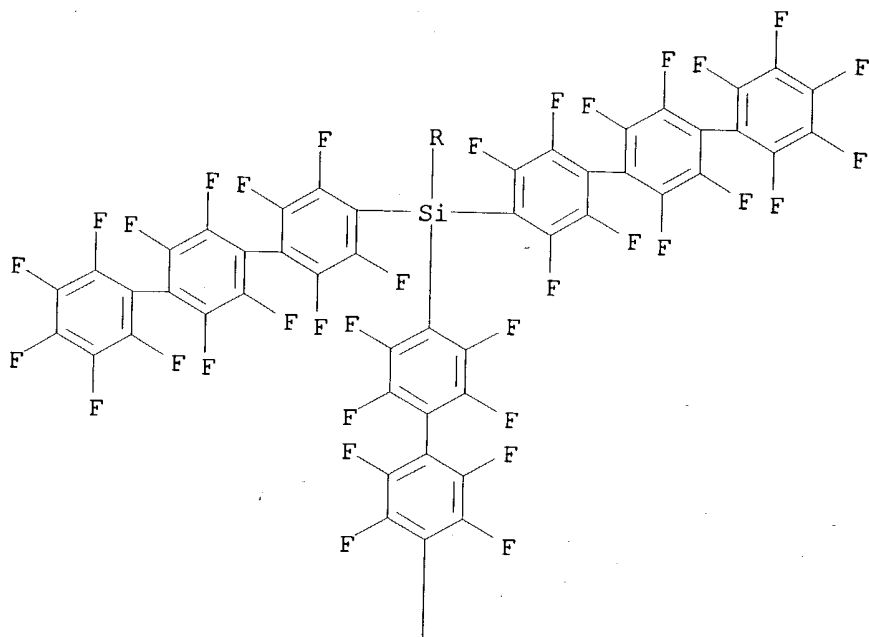


IT 665048-61-3
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (**light-emitting** elements comprising compound
 consisting essentially of carbon, fluorine and silicon, and)

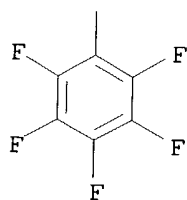
RN 665048-61-3 HCAPLUS

CN Silane, tetrakis(2,2',2'',3,3',3'',4'',5,5',5'',6,6',6''-
 tridecafluoro[1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)

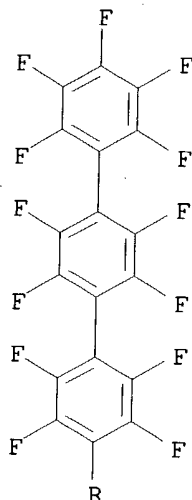
PAGE 1-A



PAGE 2-A



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=> => FILE REG

FILE 'REGISTRY' ENTERED AT 15:53:37 ON 22 OCT 2004

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STRUCTURE FILE UPDATES: 20 OCT 2004 HIGHEST RN 766487-31-4

DICTIONARY FILE UPDATES: 20 OCT 2004 HIGHEST RN 766487-31-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

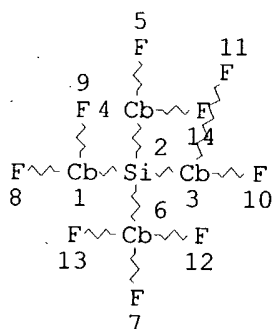
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> D QUE

L48

STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED,
 NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

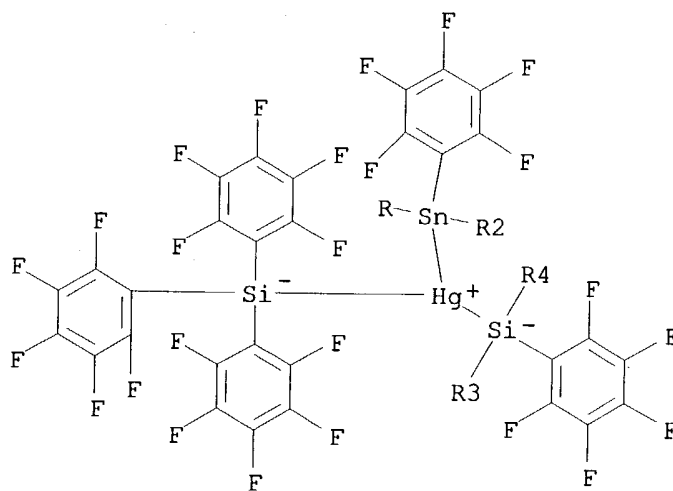
L50 39 SEA FILE=REGISTRY SSS FUL L48
 L57 35 SEA FILE=REGISTRY ABB=ON L50/INC

=> D SCAN L57

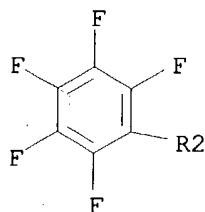
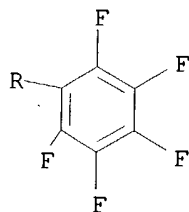
L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Mercurate(1-), bis[tris(pentafluorophenyl)silyl][tris(pentafluorophenyl)st.
 annyl]- (9CI)
 MF C54 F45 Hg Si2 Sn
 CI CCS, COM

35 of the structures
 out of the query which
 found 39 structures
 have incomplete
 iterations and
 are not correct
 answers.
 See below ↓

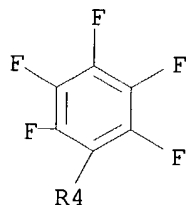
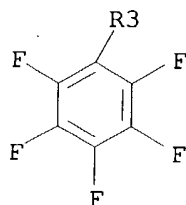
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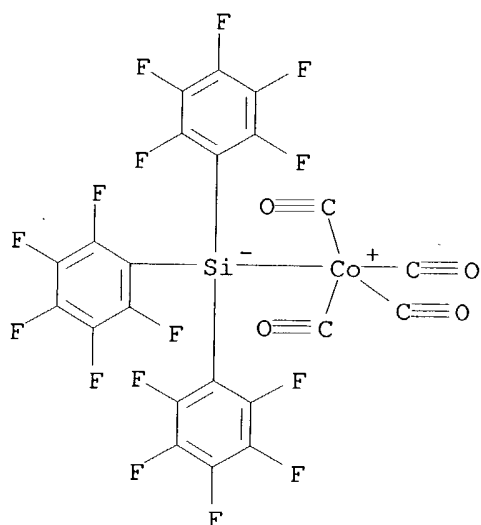


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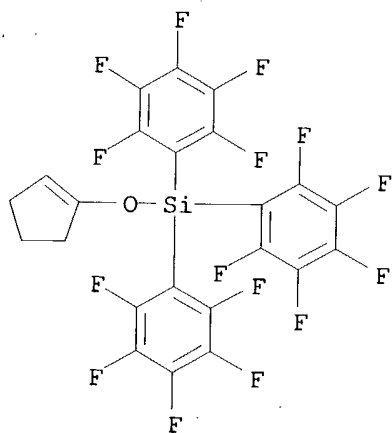


HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):34

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Cobalt, tetracarbonyl[tris(pentafluorophenyl)silyl]- (8CI)
MF C22 Co F15 O4 Si
CI CCS

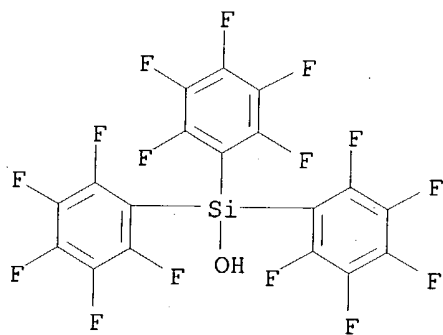


L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Silane, (1-cyclopenten-1-yloxy)tris(pentafluorophenyl)- (9CI)
 MF C23 H7 F15 O Si



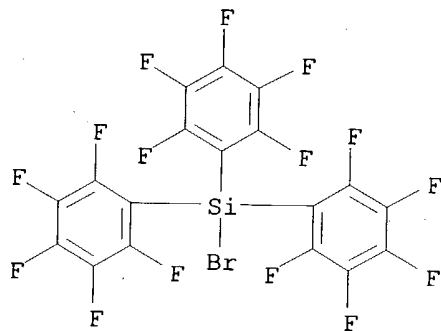
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Silanol, tris(pentafluorophenyl)- (9CI)
 MF C18 H F15 O Si



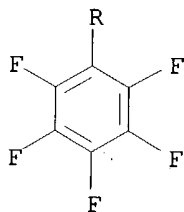
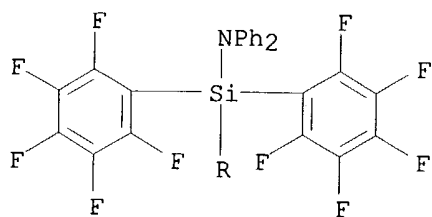
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silane, bromotris(pentafluorophenyl)- (8CI, 9CI)
MF C18 Br F15 Si



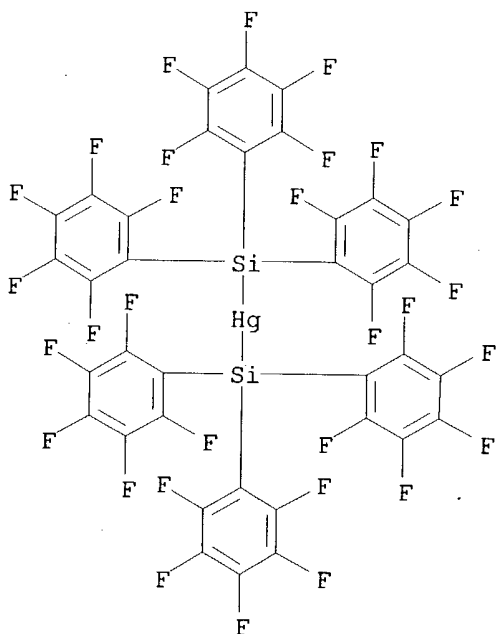
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silanamine, 1,1,1-tris(pentafluorophenyl)-N,N-diphenyl- (9CI)
MF C30 H10 F15 N Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

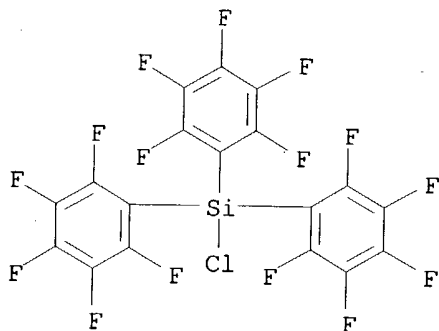
L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Mercury, bis[tris(pentafluorophenyl)silyl]- (9CI)
MF C36 F30 Hg Si2



L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

IN Silane, chlorotris(pentafluorophenyl)- (8CI, 9CI)
MF Cl8 Cl F15 Si



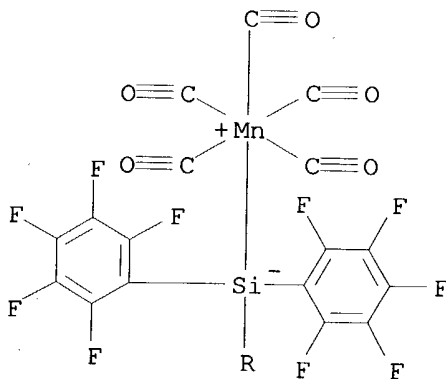
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Mercurate(2-), bis[tris(pentafluorophenyl)silyl]bis[tris(pentafluorophenyl)
stannyl]-, (T-4)- (9CI)
MF C72 F60 Hg Si2 Sn2
CI CCS, COM

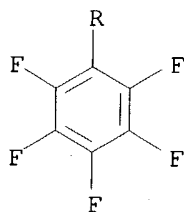
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Manganese, pentacarbonyl[tris(pentafluorophenyl)silyl]-, (OC-6-22)- (9CI)
MF C23 F15 Mn O5 Si
CI CCS

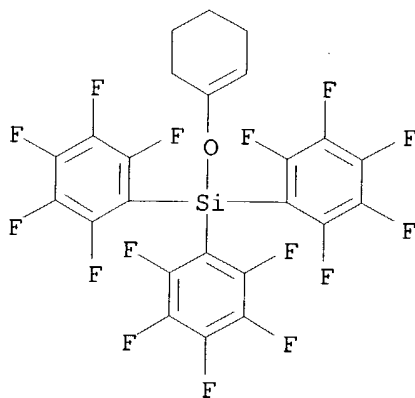
PAGE 1-A



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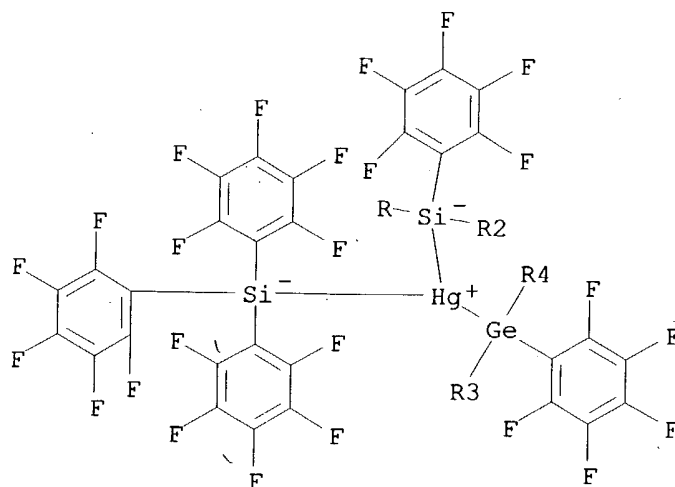
L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silane, (1-cyclohexen-1-yloxy)tris(pentafluorophenyl)- (9CI)
MF C24 H9 F15 O Si



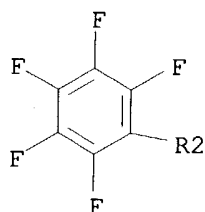
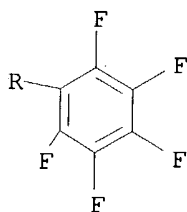
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Mercurate(1-), [tris(pentafluorophenyl)germyl]bis[tris(pentafluorophenyl)silyl]- (9CI)
MF C54 F45 Ge Hg Si2
CI CCS, COM

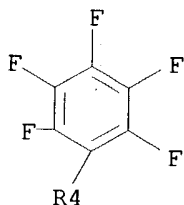
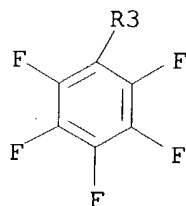
PAGE 1-A



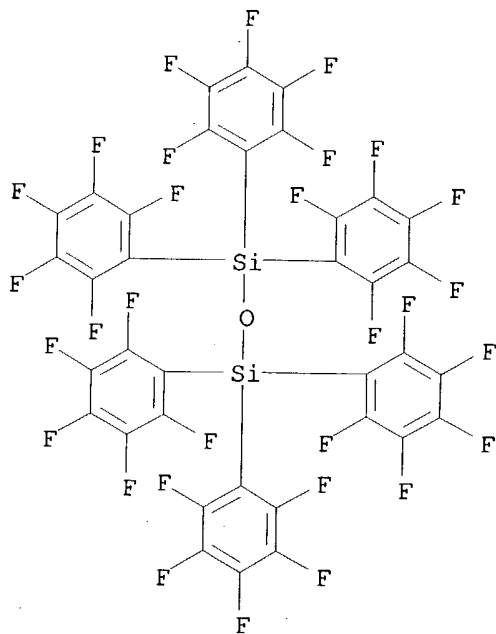
PAGE 2-A



PAGE 3-A



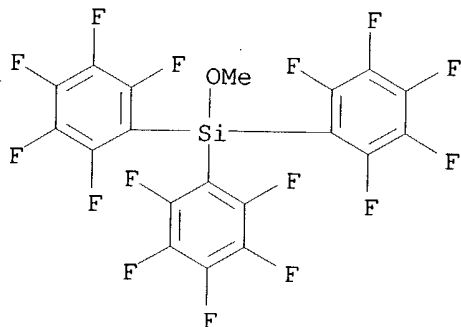
L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Disiloxane, hexakis(pentafluorophenyl)- (8CI, 9CI)
MF C36 F30 O Si2



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

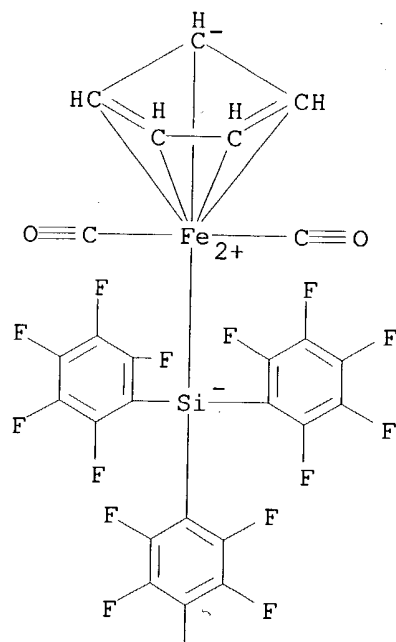
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silane, methoxytris(pentafluorophenyl)- (9CI)
MF C19 H3 F15 O Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Iron, dicarbonyl(η^5 -2,4-cyclopentadien-1-yl)[tris(pentafluorophenyl)sil-
yl]- (9CI)
MF C25 H5 F15 Fe O2 Si
CI CCS

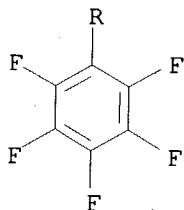
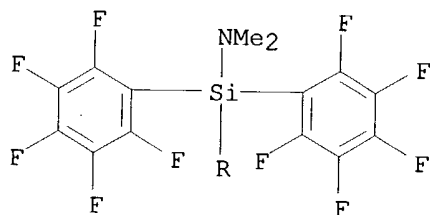


PAGE 1-A

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|
F

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silylamine, N,N-dimethyl-1,1,1-tris(pentafluorophenyl)- (8CI)
MF C20 H6 F15 N Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

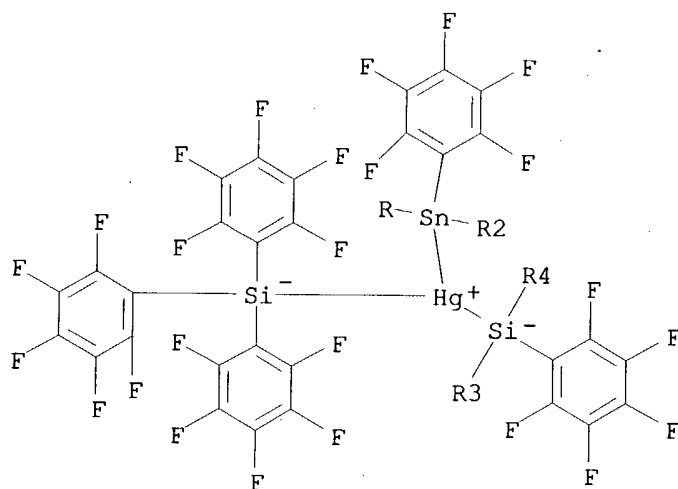
L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Praseodymium(3+), tris(1,2-dimethoxyethane-O,O')-, (OC-6-11)-,
(T-4)-bis[tris(pentafluorophenyl)silyl]bis[tris(pentafluorophenyl)stannyl]
mercurate(2-) bis[tris(pentafluorophenyl)silyl][tris(pentafluorophenyl)sta
nnyl]mercurate(1-) (1:1:1) (9CI)
MF C72 F60 Hg Si2 Sn2 . C54 F45 Hg Si2 Sn . C12 H30 O6 Pr

CM 1

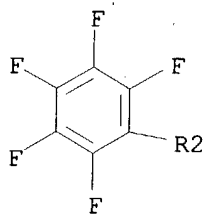
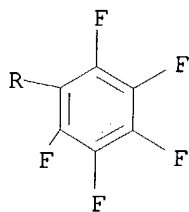
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

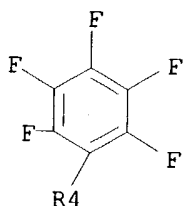
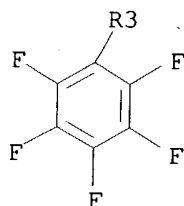
PAGE 1-A



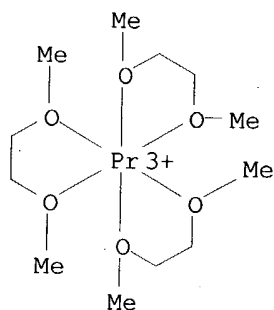
PAGE 2-A



PAGE 3-A

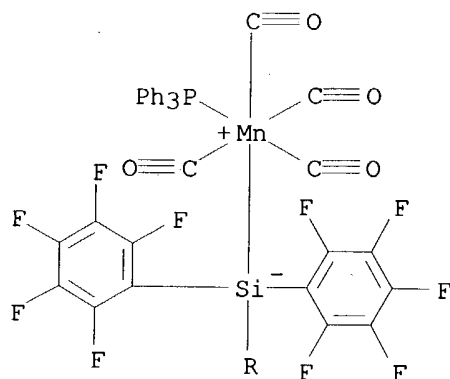


CM 3

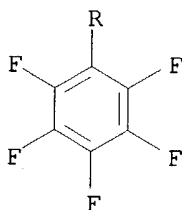


L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Manganese, tetracarbonyl(triphenylphosphine)[tris(pentafluorophenyl)silyl]-
(8CI)
MF C40 H15 F15 Mn O4 P Si
CI CCS

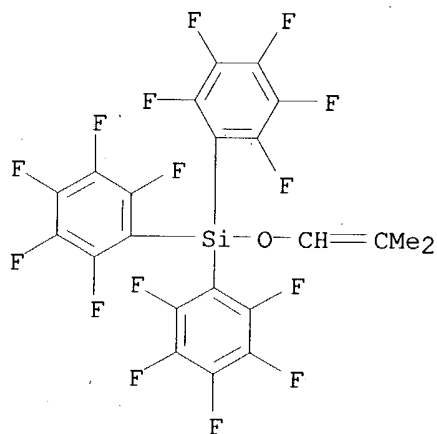
PAGE 1-A



PAGE 2-A



L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Silane, [(2-methyl-1-propenyl)oxy]tris(pentafluorophenyl)- (9CI)
 MF C22 H7 F15 O Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

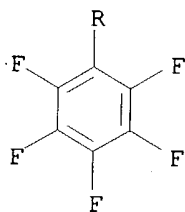
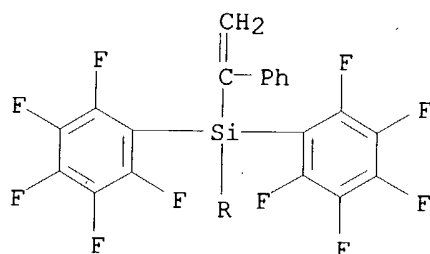
L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

IN Mercurate(2-), bis[tris(pentafluorophenyl)germyl]bis[tris(pentafluorophenyl)silyl]-, (T-4)- (9CI)
MF C72 F60 Ge2 Hg Si2
CI CCS; COM

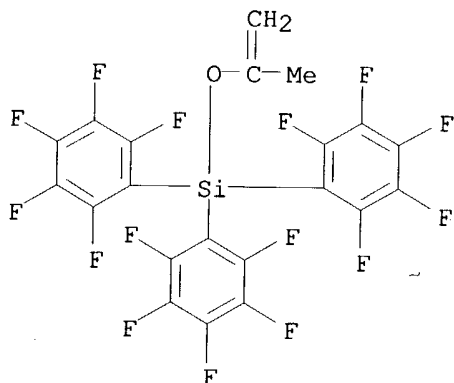
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silane, tris(pentafluorophenyl)(1-phenylvinyl)- (8CI)
MF C26 H7 F15 Si



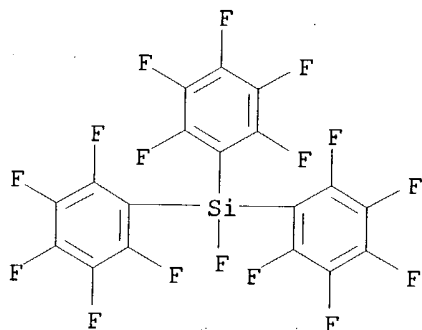
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silane, [(1-methylethenyl)oxy]tris(pentafluorophenyl)- (9CI)
MF C21 H5 F15 O Si



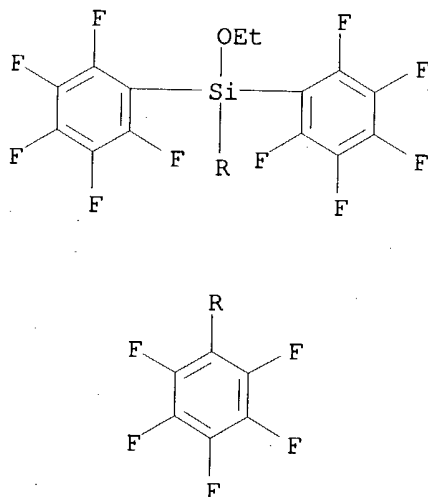
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silane, fluorotris(pentafluorophenyl)- (9CI)
MF C18 F16 Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silane, ethoxytris(pentafluorophenyl)- (8CI, 9CI)
MF C20 H5 F15 O Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

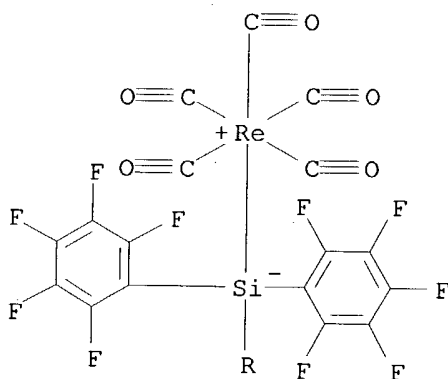
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Mercurate(2-), [μ -[bis(pentafluorophenyl)germylene]]tetrakis[tris(pentafluorophenyl)silyl]di- (9CI)
MF C84 F70 Ge Hg2 Si4
CI CCS, COM

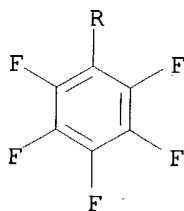
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Rhenium, pentacarbonyl[tris(pentafluorophenyl)silyl]- (8CI)
MF C23 F15 O5 Re Si
CI CCS

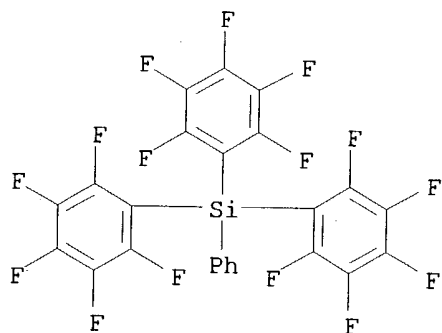
PAGE 1-A



PAGE 2-A



L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Silane, tris(pentafluorophenyl)phenyl- (8CI, 9CI)
MF C24 H5 F15 Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

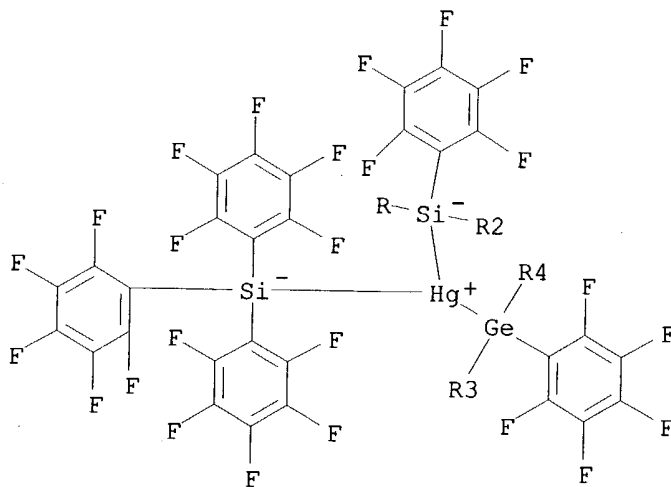
L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Praseodymium(3+), tris(1,2-dimethoxyethane-O,O')-, (OC-6-11)-,
 (T-4)-bis[tris(pentafluorophenyl)germyl]bis[tris(pentafluorophenyl)silyl]m
 ercurate(2-) [tris(pentafluorophenyl)germyl]bis[tris(pentafluorophenyl)sil
 yl]mercurate(1-) (1:1:1) (9CI)
 MF C72 F60 Ge2 Hg Si2 . C54 F45 Ge Hg Si2 . C12 H30 O6 Pr

CM 1

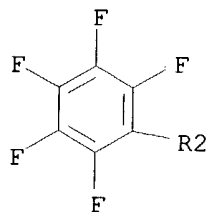
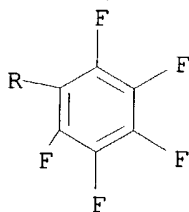
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CM 2

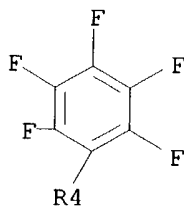
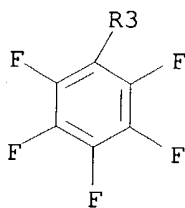
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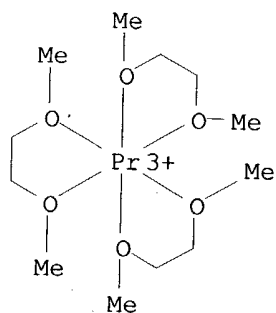
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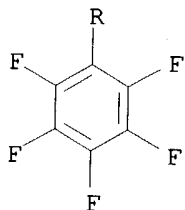
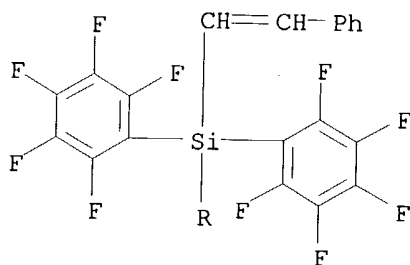
PAGE 3-A



CM 3

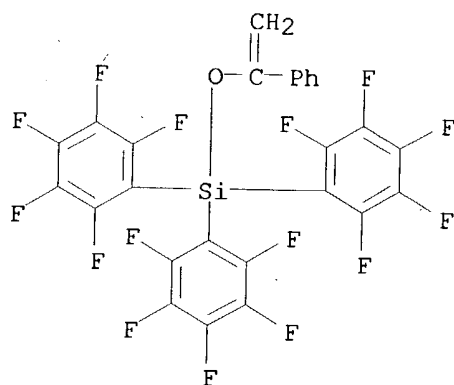


L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Silane, tris(pentafluorophenyl)styryl- (8CI)
 MF C26 H7 F15 Si



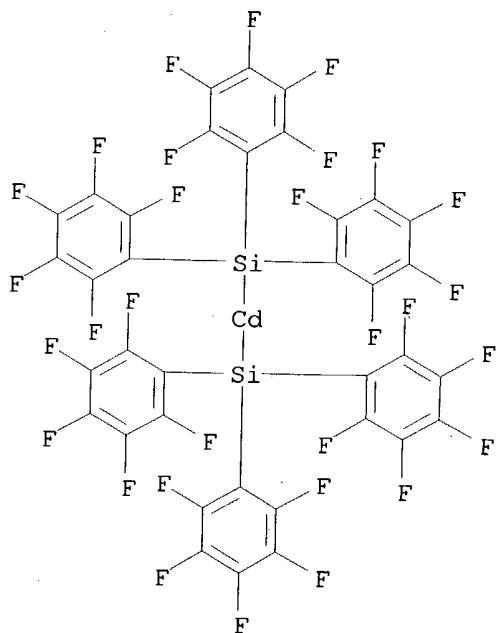
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Silane, tris(pentafluorophenyl)[(1-phenylethenyl)oxy]- (9CI)
 MF C26 H7 F15 O Si



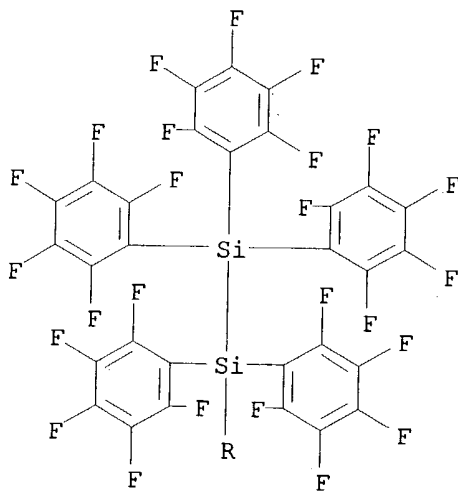
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Cadmium, bis[tris(pentafluorophenyl)silyl]- (9CI)
 MF C36 Cd F30 Si2

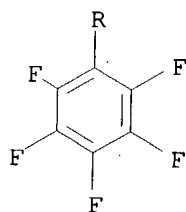


L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Disilane, hexakis(pentafluorophenyl)- (8CI, 9CI)
 MF C36 F30 Si2

PAGE 1-A



PAGE 2-A



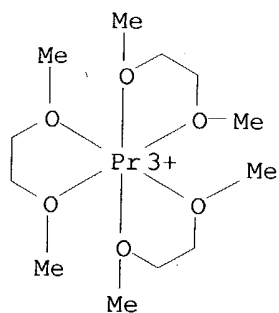
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Praseodymium(3+), tris(1,2-dimethoxyethane-O,O')-, (OC-6-11)-,
 [μ -[bis(pentafluorophenyl)germylene]]tetrakis[tris(pentafluorophenyl)si
 ly]dimercurate(2-) (2:3) (9CI)
 MF C84 F70 Ge Hg2 Si4 . 2/3 Cl2 H30 O6 Pr

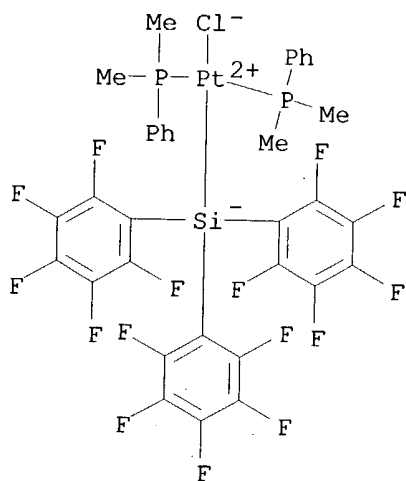
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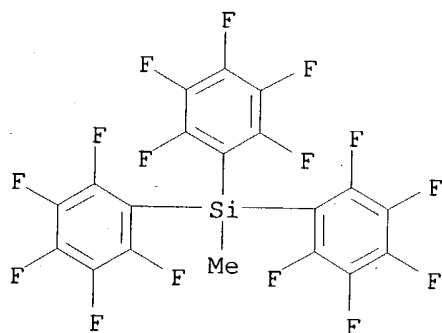
CM 2



L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Platinum, chlorobis(dimethylphenylphosphine) [tris(pentafluorophenyl)silyl]-
 , trans- (8CI)
 MF C34 H22 Cl F15 P2 Pt Si
 CI CCS



L57 35 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
 IN Silane, methyltris(pentafluorophenyl)- (8CI, 9CI)
 MF C19 H3 F15 Si



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=>

=> => FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 15:56:43 ON 22 OCT 2004

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FILE COVERS 1907 - 22 Oct 2004 VOL 141 ISS 17

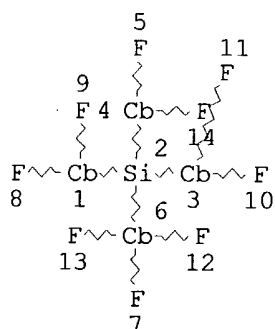
FILE LAST UPDATED: 20 Oct 2004 (20041020/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

L48

STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L50 39 SEA FILE=REGISTRY SSS FUL L48
 L52 51 SEA FILE=HCAPLUS ABB=ON L50
 L53 1 SEA FILE=HCAPLUS ABB=ON L52 AND (EL OR ?LUMINES? OR LIGHT?(3A)
 ?EMIT?)
 L57 35 SEA FILE=REGISTRY ABB=ON L50/INC
 L58 4 SEA FILE=REGISTRY ABB=ON L50 NOT L57
 L59 18 SEA FILE=HCAPLUS ABB=ON L58
 L60 17 SEA FILE=HCAPLUS ABB=ON L59 NOT L53

=> D L60 BIB ABS IND HITSTR 1-17

L60 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:525583 HCAPLUS
 DN 133:252494
 TI Intramolecular interactions in aromatic compounds: V. Electronic structure
 of polyfluoroaromatic silanes and related hydrocarbons
 AU Krupoder, S. A.; Okotrub, A. V.; Villem, N. V.; Villem, J. J.; Furin, G.
 G.; Salakhutdinov, N. F.; Poleshchuk, O. Kh.
 CS Institute of Organic Chemistry, Siberian Branch, Russian Academy of
 Sciences, Novosibirsk, Russia
 SO Russian Journal of General Chemistry (Translation of Zhurnal Obshchei
 Khimii) (2000), 70(1), 101-110
 CODEN: RJGCEK; ISSN: 1070-3632
 PB MAIK Nauka/Interperiodica Publishing
 DT Journal
 LA English
 AB The electronic structure of pentafluorophenyl-substituted silanes
 ArSiMe4-n (Ar = C6H5, C6F5, 4-FC6H4, 2,3,5,6-F4C5N; n = 1; Ar = C6H5,
 C6F5, n = 2, 4) was studied by x-ray emission and He(I) photoelectron
 spectroscopy. The He(I) photoelectron spectra were measured and
 interpreted from MNDO calcns., anal. of the p-fluoro effect, and relative
 intensities. Substitution of C6F5 for C6H5 in aryltrimethyl- and
 diaryldimethylsilanes results in enhanced π interaction between the
 aryl and SiMe groups (n = 2, 3) by higher π levels and has almost no

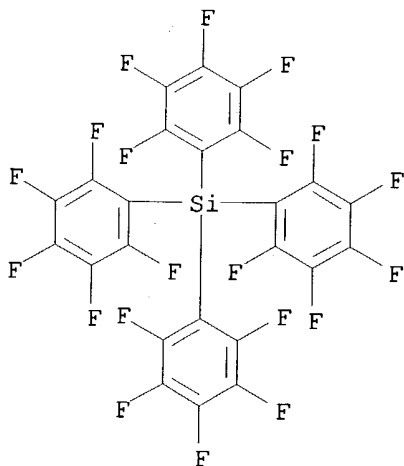
4 structures which
 are correct.

18 CA references

1 = applicant

remaining 17 are
 printed below

- effect on the charge on the Si atom.
- CC 29-6 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22
- ST electronic structure silane phenyl fluorophenyl MNDO; photoelectron spectrum silane phenyl fluorophenyl; x ray emission silane phenyl fluorophenyl; fluorine substituent effect photoelectron spectrum fluorophenylsilane
- IT Electronic structure
MNDO (molecular orbital)
Photoelectron spectra
X-ray emission
(of Ph and polyfluoroarom. silanes)
- IT Substituent effects
(of fluorine in polyfluoroarom. silanes on photoelectron spectra)
- IT Ionization potential
(of polyfluoroarom. silanes)
- IT Silanes
RL: PRP (Properties)
(polyfluoroarom.; electronic structure determined by photoelectron spectra, x-ray emission and MNDO calcns.)
- IT 455-17-4, 4-Fluorophenyl(trimethyl)silane 768-32-1,
Trimethyl(phenyl)silane 778-24-5, Dimethyl(diphenyl)silane 1048-08-4,
Tetraphenylsilane 1206-46-8, Pentafluorophenyl(trimethyl)silane
1524-78-3, Tetrakis(pentafluorophenyl)silane 10536-62-6
16297-29-3
RL: PRP (Properties)
(electronic structure determined by photoelectron spectra, x-ray emission and MNDO calcns.)
- IT 75-76-3, Tetramethylsilane
RL: PRP (Properties)
(model compound; electronic structure determined by photoelectron spectra, x-ray emission and MNDO calcns.)
- IT **1524-78-3**, Tetrakis(pentafluorophenyl)silane
RL: PRP (Properties)
(electronic structure determined by photoelectron spectra, x-ray emission and MNDO calcns.)
- RN 1524-78-3 HCAPLUS
- CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

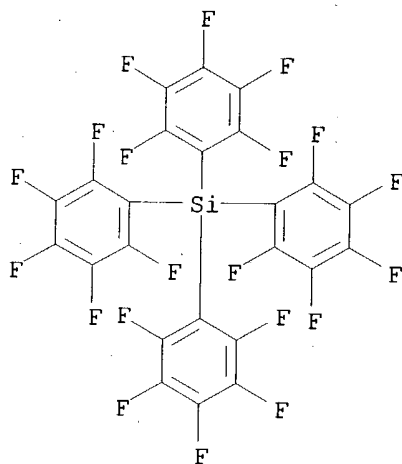
L60 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:490675 HCAPLUS
DN 129:149360
TI Olefin polymerization and process therefor
IN Van Tol, Maurits Frederik Hendrik
PA DSM N.V., Neth.; Van Tol, Maurits Frederik Hendrik
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9830603	A1	19980716	WO 1997-NL696	19971215
W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
NL 1004991	C2	19980715	NL 1997-1004991	19970114
CA 2277886	AA	19980716	CA 1997-2277886	19971215
AU 9853475	A1	19980803	AU 1998-53475	19971215
EP 954540	A1	19991110	EP 1997-950491	19971215
EP 954540	B1	20040728		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE, PT, FI				
CN 1248979	A	20000329	CN 1997-182023	19971215
JP 2002514247	T2	20020514	JP 1998-530771	19971215
AT 272078	E	20040815	AT 1997-950491	19971215
US 6218487	B1	20010417	US 1999-352842	19990713
PRAI NL 1997-1004991	A	19970114		
US 1997-38160P	P	19970213		
WO 1997-NL696	W	19971215		

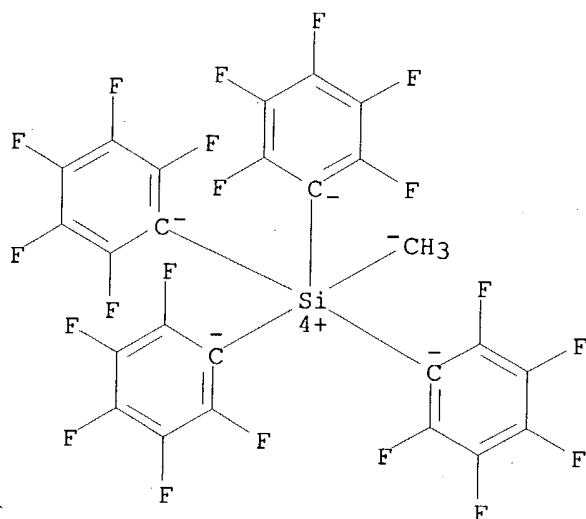
OS MARPAT 129:149360
AB Olefins are polymerized by contact with a transition metal catalyst, wherein the cocatalyst is either XR₄ (X = Si, Ge, Sn, Pb; R = H, alkyl, aryl, arylalkyl, alkylaryl; at least one R is not H and contains one or more halogen atoms) or is [X'R'₅]-Y⁺ (X' = Si, Ge, Sn, Pb; R' = H, alkyl, aryl, arylalkyl, alkylaryl; at least one R is not hydrogen and contains one or more halogen atoms; Y⁺ = cation); the cocatalyst replaces aluminoxanes which can be difficult to remove from polyolefin products. Thus, [(C₆F₅)₄SiMe]-[Li(THF)₄]⁺ was prepared and used with bis(cyclopentadienyl)zirconium monohydride monochloride and trioctylaluminum to polymerize ethylene.
IC ICM C08F004-60
ICS C08F010-00; C07F007-08
CC 35-3 (Chemistry of Synthetic High Polymers)
ST ethylene polymn catalyst organosilane organozirconium; polyolefin prodn catalyst silicon germanium
IT Polymerization catalysts
(metallocene; organosilane and -germane cocatalysts for polymerization of olefins)
IT Polymerization catalysts
(organosilane and -germane catalysts for polymerization of olefins)
IT Polyolefins

- RL: IMF (Industrial manufacture); PREP (Preparation)
(organosilane and -germane cocatalysts for polymerization of olefins)
- IT 67108-80-9, Bis(pentamethylcyclopentadienyl)dimethylzirconium
RL: CAT (Catalyst use); USES (Uses)
(catalyst; organogermanium cocatalysts for polymerization of ethylene)
- IT 1070-00-4, Trioctylaluminum 37342-97-5 178762-91-9 210771-60-1
RL: CAT (Catalyst use); USES (Uses)
(catalyst; organosilane cocatalysts for polymerization of ethylene)
- IT 5121-90-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(cocatalyst intermediate; organosilane and -germane cocatalysts for
polymerization of ethylene)
- IT 1524-78-3P, Tetrakis(pentafluorophenyl)silane
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(cocatalyst intermediate; organosilane cocatalysts for polymerization of
ethylene)
- IT 10038-98-9P, Tetrachlorogermane
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(cocatalyst starting material; organogermanium cocatalysts for
polymerization
of ethylene)
- IT 917-54-4, Methylolithium 1074-91-5, 1-Bromo-2,3,4,5-tetrafluorobenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(cocatalyst starting material; organosilane and -germane cocatalysts
for polymerization of ethylene)
- IT 344-04-7, Pentafluorobromobenzene 10026-04-7, Tetrachlorosilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(cocatalyst starting material; organosilane cocatalysts for polymerization
of
ethylene)
- IT 13628-95-0P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
USES (Uses)
(cocatalyst; organogermanium cocatalysts for polymerization of ethylene)
- IT 1452-12-6P, Tetrakis(pentafluorophenyl)germane
RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent); USES (Uses)
(cocatalyst; organogermanium cocatalysts for polymerization of ethylene)
- IT 210771-66-7DP, reaction products with triphenylchloromethane
210771-66-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(cocatalyst; organogermanium cocatalysts for polymerization of ethylene)
- IT 210771-45-2DP, reaction products with triphenylchloromethane
210771-45-2P 210771-81-6P
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
USES (Uses)
(cocatalyst; organosilane cocatalysts for polymerization of ethylene)
- IT 52910-17-5P
RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent); USES (Uses)
(cocatalyst; organosilane cocatalysts for polymerization of ethylene)
- IT 76-83-5DP, Triphenylchloromethane, reaction products with organosilanes
and organogermanes
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
USES (Uses)

- (cocatalysts; organosilane and -germane cocatalysts for polymerization of ethylene)
- IT 210771-81-6DP, reaction products with triphenylchloromethane
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
- (cocatalysts; organosilane cocatalysts for polymerization of ethylene)
- IT 925-90-6, Ethylmagnesium bromide
 RL: NUU (Other use, unclassified); USES (Uses)
- (in preparation of organosilane cocatalysts for polymerization of ethylene)
- IT 9002-88-4P
 RL: IMF (Industrial manufacture); PREP (Preparation)
- (organosilane and -germane cocatalysts for polymerization of ethylene)
- IT 1524-78-3P, Tetrakis(pentafluorophenyl)silane
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
- (cocatalyst intermediate; organosilane cocatalysts for polymerization of ethylene)
- RN 1524-78-3 HCAPLUS
- CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- IT 210771-45-2DP, reaction products with triphenylchloromethane
 210771-45-2P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
- (cocatalyst; organosilane cocatalysts for polymerization of ethylene)
- RN 210771-45-2 HCAPLUS
- CN Lithium(1+), tetrakis(tetrahydrofuran)-, (T-4)-, methyltetrakis(pentafluorophenyl)silicate(1-) (9CI) (CA INDEX NAME)
- CM 1
- CRN 210771-44-1
- CMF C25 H3 F20 Si
- CCI CCS

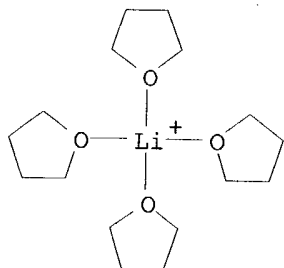


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CRN 48186-27-2

CMF C16 H32 Li O4

CCI CCS



RN 210771-45-2 HCAPLUS

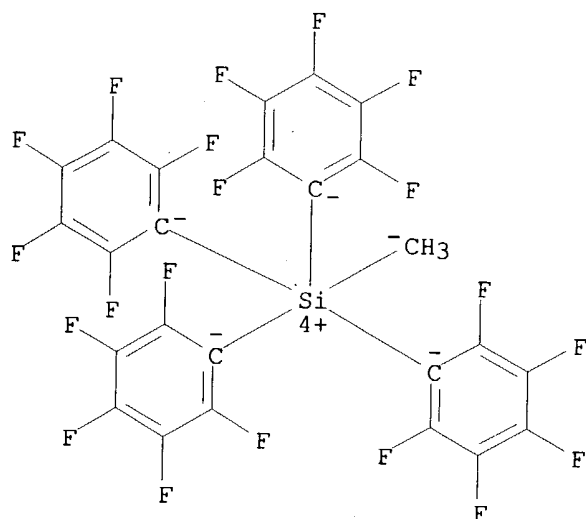
CN Lithium(1+), tetrakis(tetrahydrofuran)-, (T-4)-, methyltetrakis(pentafluorophenyl)silicate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 210771-44-1

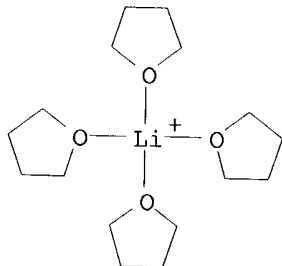
CMF C25 H3 F20 Si

CCI CCS



CM 2

CRN 48186-27-2
CMF C16 H32 Li O4
CCI CCS



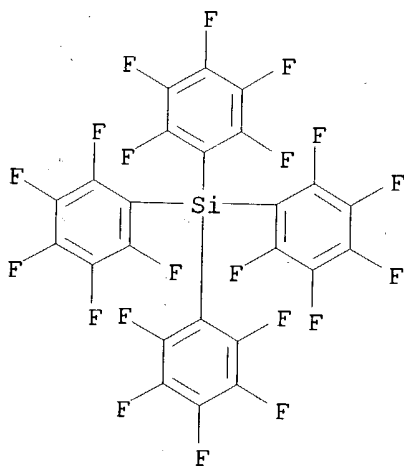
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L60 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:58862 HCAPLUS
DN 124:232542
TI A convenient preparation of pentafluorophenyl(fluoro)silanes: reactivity
of pentafluorophenyltrifluorosilane
AU Frohn, H. J.; Giesen, M.; Klose, A.; Lewin, A.; Bardin, V. V.
CS Fachgebiet Anorganische Chemie, Gerhard-Mercator-Universitaet Duisburg,
Lotharstr. 1, Duisburg, D-47048, Germany
SO Journal of Organometallic Chemistry (1996), 506(1-2), 155-64
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier
DT Journal
LA English
OS CASREACT 124:232542

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

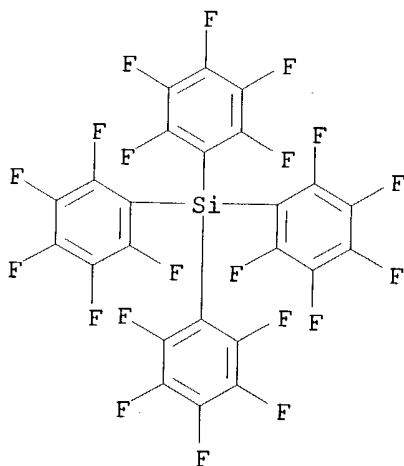
- AB Pentafluorophenyl(fluoro)silanes (C_6F_5)_nSiF_{4-n} (n = 1, 2) were prepared from the corresponding ethoxysilanes by sequential chlorodeethoxylation with SOCl₂ and fluoridation of chlorosilanes with SbF₃. The conversion of $C_6F_5Si(OEt)_3$ and $C_6F_5SiCl_3$ into $C_6F_5SiF_3$ with anhydrous HF is described. Some reactions of $C_6F_5SiF_3$ with electrophiles and nucleophiles were studied.
- CC 29-6 (Organometallic and Organometalloidal Compounds)
- ST pentafluorophenylfluorosilane prepn reaction; silane pentafluorophenylfluoro prepn reaction; ethoxysilane chlorodeethoxylation fluoridation
- IT Fluorination
(of pentafluorophenyl(chloro)silanes)
- IT Silanes
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(pentafluorophenyl(fluoro)silanes; preparation and reactions with electrophiles and nucleophiles)
- IT Ethoxylation
(retro, chloro-; of pentafluorophenyl(ethoxy)silanes)
- IT 1524-78-3, Tetrakis(pentafluorophenyl)silane 20160-39-8,
Chlorotris(pentafluorophenyl)silane 35370-01-5,
Fluorotris(pentafluorophenyl)silane
RL: PRP (Properties)
(NMR)
- IT 371-20-0P, Diethoxy(fluoro)borane 86802-17-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(formation from pentafluorophenyltriethoxysilane and boron fluoride etherate)
- IT 344-04-7P, Bromopentafluorobenzene 174743-13-6P,
Bromodifluoro(pentafluorophenyl)silane
RL: SPN (Synthetic preparation); PREP (Preparation)
(formation from pentafluorophenyltrifluorosilane and bromine)
- IT 14188-35-3P, Dibromodifluorosilane 18356-67-7P, Tribromo(fluoro)silane
RL: SPN (Synthetic preparation); PREP (Preparation)
(formation from pentafluorophenyltrifluorosilane and bromine/aluminum bromide)
- IT 7783-61-1P, Silicon tetrafluoride 121827-61-0P,
Bis(pentafluorophenyl)iodonium
RL: SPN (Synthetic preparation); PREP (Preparation)
(formation from pentafluorophenyltrifluorosilane and fluoroiodonium fluoroantimonate)
- IT 20160-47-8P, Chloro(ethoxy)bis(pentafluorophenyl)silane 174743-04-5P,
Ethoxydifluoro(pentafluorophenyl)silane 174743-05-6P,
Diethoxy(fluoro)(pentafluorophenyl)silane 174743-08-9P,
Dichloro(ethoxy)(pentafluorophenyl)silane
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; convenient preparation of fluorophenyl(fluoro)silanes: reactivity of fluorophenylfluorosilane)
- IT 174743-11-4P, Dibutyl(ethoxy)(pentafluorophenyl)silane
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with acetyl chloride/zinc chloride)
- IT 20083-38-9P, Trichloro(pentafluorophenyl)silane 20160-45-6P,
Dichlorobis(pentafluorophenyl)silane
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with antimony fluoride)
- IT 5272-26-4P, Trifluoro(pentafluorophenyl)silane

- RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactions with electrophiles and nucleophiles)
- IT 27585-17-7P, Difluorobis(pentafluorophenyl)silane
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and reactions with electrophiles and nucleophiles)
- IT 174743-06-7P, Difluoro(pentafluorophenyl)(1-piperidino)silane
174743-07-8P, Fluoro(pentafluorophenyl)bis(1-piperidino)silane
174743-09-0P, Tributyl(pentafluorophenyl)silane 174743-10-3P,
Dibutyl(fluoro)(pentafluorophenyl)silane 174743-12-5P,
Dibutyl(4-butyltetrafluorophenyl)(pentafluorophenyl)silane
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
- IT 693-03-8, Bromo(butyl)magnesium
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with pentafluorophenyltrifluorosilane)
- IT 13888-69-2, Diethoxybis(pentafluorophenyl)silane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with thionyl chloride/pyridinium chloride)
- IT 20083-34-5, Triethoxy(pentafluorophenyl)silane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions with hydrofluoric acid, thionyl chloride/pyridinium
chloride, boron fluoride and other reagents)
- IT 109-72-8, Butyllithium, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions with pentafluorophenyltrifluorosilane)
- IT 1524-78-3, Tetrakis(pentafluorophenyl)silane
RL: PRP (Properties)
(NMR)
- RN 1524-78-3 HCAPLUS
- CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- L60 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 1992:602108 HCAPLUS
- DN 117:202108
- TI Thermodynamic simulation of deposition of molybdenum and tungsten
disilicides in metalorganic CVD processes
- AU Kuznetsov, F. A.; Titov, V. A.; Golubenko, A. N.; Titov, A. A.

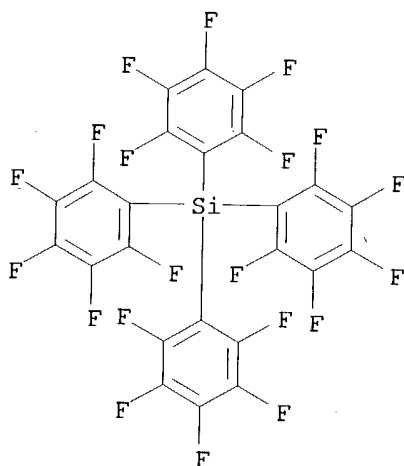
CS Inst. Inorg. Chem., Novosibirsk, 630090, USSR
 SO Proceedings of SPIE-The International Society for Optical Engineering
 (1992), 1783(Int. Conf. Microelectron., 1992), 541-50
 CODEN: PSISDG; ISSN: 0277-786X
 DT Journal
 LA English
 AB Modeling of disilicide deposition in the systems with volatile metalorg.
 and fluorinated Si organic compds. was performed for a number of systems
 M-Si-C-H-Ar, M-Si-C-O-Cl-H-Ar, M-Si-C-H-F-Ar, M-Si-C-O-F-H-Ar (M = W, Mo).
 In some of these systems (especially with fluorinated compds.) there are wider
 regions of quasi-equilibrium deposition of disilicides.
 CC 75-1 (Crystallography and Liquid Crystals)
 Section cross-reference(s): 69
 ST deposition molybdenum tungsten silicide metalorg simulation
 IT Vapor deposition processes
 (of molybdenum and tungsten disilicide, thermodyn. simulation of
 metalorg.)
 IT 12039-88-2, Tungsten silicide (WSi₂) 12136-78-6, Molybdenum silicide
 (MoSi₂)
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (deposition of, thermodyn. simulation of metalorg. vapor-phase)
 IT 1271-33-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with silicon compds. in tungsten disilicide deposition)
 IT **1524-78-3** 122571-42-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with tungsten cyclopentadienyl complex in tungsten
 disilicide deposition)
 IT **1524-78-3**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with tungsten cyclopentadienyl complex in tungsten
 disilicide deposition)
 RN 1524-78-3 HCAPLUS
 CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L60 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1992:539948 HCAPLUS
 DN 117:139948

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

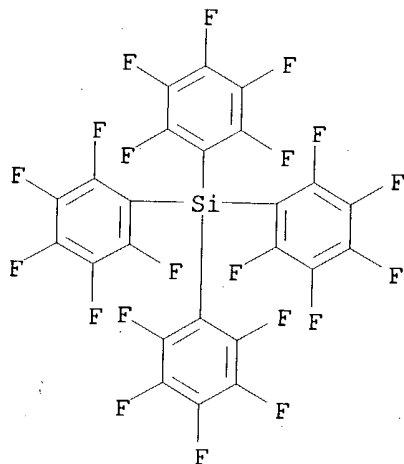
- TI Photoelectron helium spectra of the pentafluorophenyl derivatives of Group IV and V elements
- AU Petrachenko, N. E.; Vovna, V. I.; Furin, G. G.
- CS Nauchno-Issled. Fiz.-Tekh.-Inst., Vladivostok, Russia
- SO Zhurnal Fizicheskoi Khimii (1992), 66(2), 515-20
CODEN: ZFKHA9; ISSN: 0044-4537
- DT Journal
- LA Russian
- AB In the compds. of tricoordinated P and As, intramol. interaction is observed of a lone electron pair with the π -MO fluorinated benzene ring, while in the P-containing compds. this interaction is stronger, than in As-containing compds. In tetracoordinated compds., the interaction between orbitals of the group X = O (X=P,As) with groups of π -MO substituents was not observed. The basic contribution to the bonding is from σ -orbitals localized on X-C bonds.
- CC 73-6 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
- ST photoelectron fluorophenyl Group IVA VA deriv; phenyl fluoro Group IVA VA photoelectron; bonding fluorophenyl Group IVA VA deriv
- IT Bond
(in fluorophenyl derivs. of Group IVA and VA elements)
- IT Photoelectron spectroscopy
(of pentafluorophenyl derivs. of Group IVA and VA elements)
- IT 1065-49-2 1259-34-3 1259-35-4, Tris(pentafluorophenyl)phosphine
1452-12-6 **1524-78-3** 2729-11-5, Tris(pentafluorophenyl)phosphin
eoxide 18005-77-1
RL: PRP (Properties)
(photoelectron spectrum of)
- IT **1524-78-3**
RL: PRP (Properties)
(photoelectron spectrum of)
- RN 1524-78-3 HCAPLUS
- CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- L60 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 1989:534254 HCAPLUS
- DN 111:134254
- TI Reactions of arylmethylsilanes and tetraarylsilanes with xenon difluoride

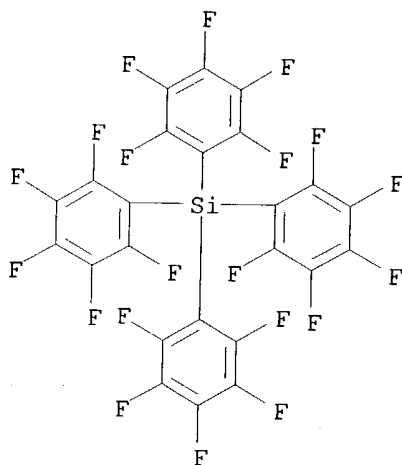
- in the presence of fluoride ions
- AU Bardin, V. V.; Stennikova, I. V.; Furin, G. G.; Leshina, T. V.; Yakobson, G. G.
- CS Novosib. Inst. Org. Khim., Novosibirsk, USSR
- SO Zhurnal Obshchei Khimii (1988), 58(11), 2580-8
CODEN: ZOKHA4; ISSN: 0044-460X
- DT Journal
- LA Russian
- OS CASREACT 111:134254
- AB The reaction of $RnSiMe_{4-n}$ ($R = C_6F_5$, $p-F_3CC_6F_4$, tetrafluoro-4-pyridyl; $n = 1, 2, 4$) with XeF_2 in the presence of MF ($M = K, Rb, Cs$) gave protodesilylation products and diaryls. The reaction is a convenient method for generation of polyfluoroaryl and polyfluorohetaryl radicals under mild conditions.
- CC 29-6 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 25, 27
- ST arylmethylsilane xenon difluoride reaction; pyridylmethylsilane xenon difluoride reaction; xenon difluoride fluoroarylmethylsilane reaction; protodesilylation arylmethylsilane xenon difluoride reaction; radical polyfluoroaryl polyfluorohetaryl
- IT Heterocyclic compounds
RL: PROC (Process)
(aromatic, fluoro, radicals, generation of, from reaction of hetarylmethylsilanes with xenon difluoride)
- IT Aromatic hydrocarbons, preparation.
RL: PREP (Preparation)
(fluoro, radicals, generation of, from reaction of arylmethylsilanes with xenon difluoride)
- IT Silylation
(retro, in reaction of arylmethylsilanes with xenon difluoride)
- IT 768-32-1, Trimethylphenylsilane 1048-08-4, Tetraphenylsilane 3728-43-6, Trimethyl-p-tolylsilane 4405-33-8, Trimethyl-p-nitrophenylsilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(attempted reaction of, with xenon difluoride)
- IT 92-52-4P, 1,1'-Biphenyl, preparation 98-08-8P 344-04-7P 363-72-4P
434-90-2P 581-80-6P 651-80-9P 2875-18-5P 2875-19-6P 3511-91-9P
17823-47-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
- IT 7789-23-3, Potassium fluoride 13400-13-0, Cesium fluoride 13446-74-7, Rubidium fluoride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of arylmethylsilanes with xenon difluoride in presence of)
- IT 13709-36-9, Xenon difluoride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with arylmethylsilanes)
- IT 75-25-2, Tribromomethane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with trimethylpentafluorophenylsilane and xenon difluoride)
- IT 312-75-4 1206-46-8 1524-78-3 16297-29-3 122571-41-9
122571-42-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with xenon difluoride)
- IT 1524-78-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with xenon difluoride)
- RN 1524-78-3 HCAPLUS

CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



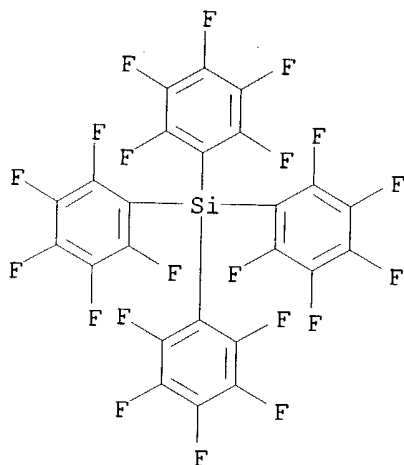
- L60 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1984:510434 HCAPLUS
 DN 101:110434
 TI Pentafluorophenyliodine(V) compounds, part 1. Preparation of pentafluorophenyliodine tetrafluoride and other aryliodine tetrafluorides by reaction of iodine pentafluoride with arylsilanes
 AU Frohn, Hermann Josef
 CS Fachber.-Chem., Univ. Gesamthochsch. Duisburg, Duisburg, 4100/1, Fed. Rep. Ger.
 SO Chemiker-Zeitung (1984), 108(4), 146-7
 CODEN: CMKZAT; ISSN: 0009-2894
 DT Journal
 LA German
 OS CASREACT 101:110434
 AB R₄IF₄ (R = C₆F₅, Ph, p-F, -Me-, -MeOC₆H₄) were prepared by treating IF₅ with R_nSiX_{4-n} (X = F, Me; n = 1-4). The effect of solvent and pyridine on the reaction was studied.
 CC 25-3 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 Section cross-reference(s): 29
 ST fluorophenyliodine tetrafluoride; phenyliodine tetrafluoride; iodine pentafluorophenyl tetrafluoride; silane phenyl iodine pentafluoride reaction
 IT Solvent effect
 (on reaction of iodine pentafluoride with phenylsilanes)
 IT 22121-26-2P 22121-27-3P 29848-54-2P 38091-68-8P 91679-75-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 110-86-1, uses and miscellaneous
 RL: USES (Uses)
 (reaction of iodine pentafluoride with phenylsilanes in presence of)
 IT 368-47-8 1048-08-4 1206-46-8 **1524-78-3** 5272-26-4
 10256-83-4 10536-62-6 13688-78-3 24727-90-0 35370-01-5
 50625-30-4 63523-07-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with iodine pentafluoride)
 IT 7783-66-6

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with phenylsilanes)
 IT 75-05-8, uses and miscellaneous
 RL: PRP (Properties)
 (solvent effect of, on reaction of iodine pentafluoride with
 phenylsilanes)
 IT 1524-78-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with iodine pentafluoride)
 RN 1524-78-3 HCAPLUS
 CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



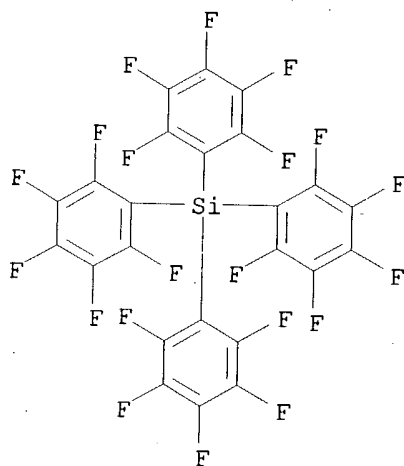
L60 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1978:624407 HCAPLUS
 DN 89:224407
 TI The crystal structure of tetrakis(pentafluorophenyl)silane
 AU Karipides, Anastas; Foerst, Barbara
 CS Dep. Chem., Miami Univ., Oxford, OH, USA
 SO Acta Crystallographica, Section B: Structural Crystallography and Crystal
 Chemistry (1978), B34(11), 3494-6
 CODEN: ACBCAR; ISSN: 0567-7408
 DT Journal
 LA English
 AB The crystal structure of (C₆F₅)₄Si was determined from 3-dimensional
 single-crystal x-ray data collected on a computer-automated
 diffractometer. The compound crystallizes in space group I4₁/a with cell
 dimensions of a 17.165 (12) and c 8.128 (8) Å; Z = 4. The (C₆F₅)₄Si
 mols. have S₄ crystallog. imposed symmetry. Full-matrix least squares
 refinement yielded a conventional R factor of 0.070.
 CC 75-5 (Crystallization and Crystal Structure)
 ST structure pentafluorophenylsilane; fluorophenylsilane structure; silane
 pentafluorophenyl structure; phenyl pentafluorosilane structure
 IT Crystal structure
 Molecular structure
 (of tetrakis(pentafluorophenyl)silane)
 IT 1524-78-3
 RL: PRP (Properties)
 (crystal structure of)

IT **1524-78-3**
 RL: PRP (Properties)
 (crystal structure of)
 RN 1524-78-3 HCAPLUS
 CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



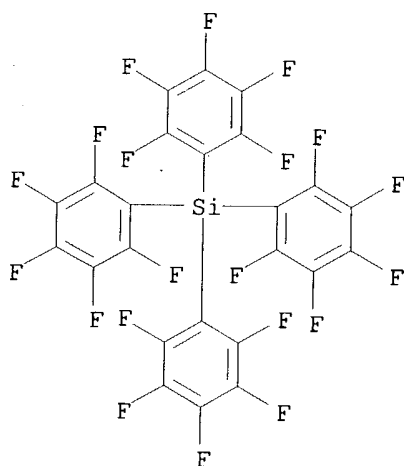
L60 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1973:123476 HCAPLUS
 DN 78:123476
 TI NMR studies of pentafluorophenyl-substituted silanes. I. Relations between chemical shifts, coupling constants, and (p-d) π interactions
 AU Haegele, Gerhard; Weidenbruch, Manfred
 CS Inst. Anorg. Chem., Univ. Duesseldorf, Duesseldorf, Fed. Rep. Ger.
 SO Chemische Berichte (1973), 106(2), 460-70
 CODEN: CHBEAM; ISSN: 0009-2940
 DT Journal
 LA German
 AB The 60-100 MHz ^{19}F -NMR spectra of 21 silanes $\text{R}_n\text{SiX}_{4-n}$ ($\text{R} = \text{C}_6\text{F}_5$, $n = 1-4$, $\text{X} = \text{H}$, alkyl, halo, or amino), $\text{RSiMe}_2\text{SiMe}_2\text{R}$, and $\text{RSiMe}_2\text{SiMe}_3$ were determined and analyzed using [AX] $_{2M}$ approxns. The relations between the title parameters were discussed in terms of the π -acceptor action of the SiX groups and long-range interannular F-F and F-H couplings.
 CC 22-2 (Physical Organic Chemistry)
 ST fluorophenylsilane NMR; silane pentafluorophenyl NMR; fluorine 19 NMR fluorophenylsilane; pi acceptor fluorophenylsilane
 IT Conjugation
 (in pentafluorosilanes, NMR in relation to)
 IT Spin, nuclear coupling
 (of fluorine with fluorine, in pentafluorophenylsilanes, conjugation in relation to)
 IT Nuclear magnetic resonance
 (of fluorine-19, of pentafluorophenylsilanes, conjugation in relation to)
 IT 1206-46-8 **1524-78-3** 5272-26-4 10536-62-6 17067-70-8
 17067-71-9 18920-98-4 20160-39-8 21655-08-3 27585-17-7
 35369-97-2 35369-98-3 35370-01-5
 RL: PRP (Properties)
 (NMR of, fluorine-19 of, π interactions in relation to)

IT 7782-41-4, properties
 RL: PRP (Properties)
 (NMR of, in pentafluorophenylsilanes)
 IT 13888-77-2 20160-40-1 23761-73-1 23761-74-2 23761-75-3
 23761-76-4 27490-05-7 27491-93-6 33558-55-3 33558-56-4
 RL: PRP (Properties)
 (NMR of, π interactions in relation to fluorine in)
 IT 1524-78-3
 RL: PRP (Properties)
 (NMR of, fluorine-19 of, π interactions in relation to)
 RN 1524-78-3 HCAPLUS
 CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



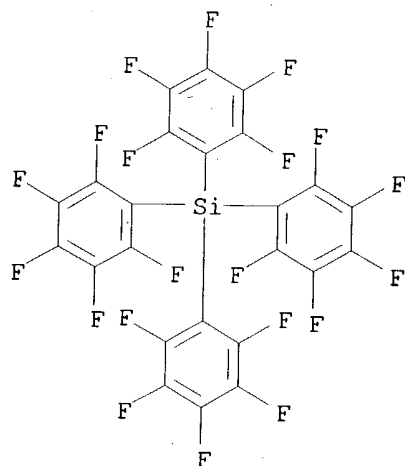
L60 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1969:119359 HCAPLUS
 DN 70:119359
 TI Fragmentation and rearrangement processes in the mass spectra of perhalogenoaromatic compounds. II. Pentafluorophenyl derivatives of group IV
 AU Miller, Jack M.
 CS Brock Univ., St. Catharines, ON, Can.
 SO Canadian Journal of Chemistry (1969), 47(10), 1613-20
 CODEN: CJCHAG; ISSN: 0008-4042
 DT Journal
 LA English
 AB The mass spectra of compds. of the type $(C_6F_5)_4M$ ($M = Si, Ge, Sn,$ and Pb) have been studied. Bond forming rearrangements were detected, involving F abstraction by the central atom, forming perfluorophenylene ions and neutral metal fluoride species. The heavier metals give simpler spectra and fragmentation schemes. The bulk of the ion current is carried by fluorocarbon ions for the Si derivative and by organometallic or metal fluoride ions in the other three cases, SnF^+ and PbF^+ forming the base peaks in their spectra. When M is C in the compds. $(C_6F_5)_3COH$ and $(C_6F_5)_2CO$ there is little evidence for rearrangements and transfer of F to the central C atom.
 CC 71 (Electric Phenomena)
 ST perhaloaroms mass spectra; silicon perfluorophenyls mass spectra; germanium perfluorophenyls mass spectra; tin perfluorophenyls mass

spectra; lead perfluorophenyls mass spectra; perfluorophenyls mass spectra; fluorophenyls mass spectra
IT Mass spectra
(of Group IVA fluorophenyl derivs.)
IT 1065-49-2 1111-02-0 1452-12-6 **1524-78-3**
RL: PRP (Properties)
(mass spectrum of)
IT **1524-78-3**
RL: PRP (Properties)
(mass spectrum of)
RN 1524-78-3 HCAPLUS
CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L60 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1968:477334 HCAPLUS
DN 69:77334
TI A direct preparation of some pentafluorophenyl-containing silanes
AU Whittingham, A.; Jarvie, A. W. P.
CS Univ. Aston, Birmingham, UK
SO Journal of Organometallic Chemistry (1968), 13(1), 125-9
CODEN: JORCAI; ISSN: 0022-328X
DT Journal
LA English
AB The reaction of pentafluorobromobenzene with both tetraethoxysilane and tetrachlorosilane, by a modified Grignard method, leads to the formation of compds. of the type (C₆F₅)_nSiX_{4-n} (X = OEt and Cl and n = 1 - 4). These compds. have been characterized by phys. methods, elemental anal., interconversion and the preparation of derivs.
CC 29 (Organometallic and Organometalloidal Compounds)
ST silanes perfluorophenyl; silicon org compds
IT 1206-46-8P **1524-78-3P** 10536-62-6P 13888-69-2P 20083-34-5P
20083-38-9P 20160-45-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT **1524-78-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 1524-78-3 HCAPLUS

CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- L60 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1968:456104 HCAPLUS
 DN 69:56104
 TI The fluorine-19 NMR spectra of some pentafluorophenyl compounds of group IV elements
 AU Jolley, K. W.; Sutcliffe, L. H.
 CS Univ. Liverpool, Liverpool, UK
 SO Spectrochimica Acta, Part A: Molecular and Biomolecular Spectroscopy (1968), 24(8), 1191-203
 CODEN: SAMCAS; ISSN: 1386-1425
 DT Journal
 LA English
 AB Accurate chemical shifts were determined for the pentafluorophenyl F nuclei of
 a number of Group IV pentafluorophenyl compds. by the use of an extended lock in the HA mode. All the compds. studied have a very large ortho shift, the trends of which can be predicted by both the van der Waals elec. field theory and the through bond theory of Hruska, et al. The m- and p-19F chemical shifts were used to predict the π -electron accepting ability of the various substituents attached to the Group IV atom. The coupling consts. obtained from those compds. which give resolvable spectra supports the chemical shift work. 35 references.
 CC 73 (Spectra and Other Optical Properties)
 ST NMR F 19 fluorophenyls; fluorine 19 NMR; fluorophenyls NMR
 IT Substituents
 (electron accepting ability of, of Group IV compds., N.M.R. in determination of)
 IT Electron acceptors
 (nuclear magnetic resonance in determination of)
 IT Nuclear magnetic resonance
 (of fluorine, in (pentafluorophenyl) derivs. of Group IV elements)
 IT 801-79-6 1015-53-8 1058-08-8 1062-67-5 1062-71-1 1065-49-2
 1080-51-9 1106-04-3 1111-02-0 1259-89-8 1262-57-3 1452-12-6
 1524-78-3 10177-67-0 10177-68-1 10177-69-2 10360-39-1
 RL: PRP (Properties)
 (nuclear magnetic resonance of fluorine in)

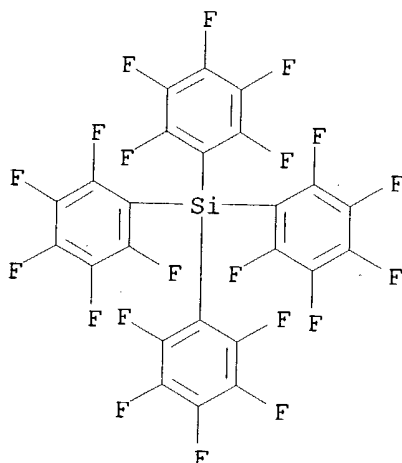
IT 1524-78-3

RL: PRP (Properties)

(nuclear magnetic resonance of fluorine in)

RN 1524-78-3 HCAPLUS

CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L60 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1968:13065 HCAPLUS

DN 68:13065

TI Polyhalo-organometallic and -organometalloidal compounds. VIII.

Preparation of some pentafluorophenyl substituted organosilicon compounds

AU Fearon, F. W. Gordon; Gilman, Henry

CS Iowa State Univ., Ames, IA, USA

SO Journal of Organometallic Chemistry (1967), 10(3), 409-19

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA English

AB The preparation and some properties of $(C_6F_5)_nSiPh_{4-n}$ (where $n = 1-4$) and $(C_6F_5)_nPh_{3-n}SiX$ (where $n = 1$ or 2 and $X = H$ or Cl) are described. In general, these compds. were obtained by the reaction of a (pentafluorophenyl)metallic compound with the corresponding chlorosilane. However, $(C_6F_5)_nPh_{3-n}SiCl$ could not be obtained in this manner; they were prepared by the chlorination of the corresponding organosilicon hydrides. Evidence is presented which suggests that C_6Cl_5Li is more reactive towards $ClSiPh_3$ than is C_6F_5Li under similar conditions. The reaction of an alkyl lithium compound with $HPh_2SiC_6F_5$ leads predominantly to cleavage of the C_6F_5 group from Si. The ir spectra of all the above compds. are discussed and the uv spectra of $(C_6F_5)_nSiPh_{4-n}$ (where $n = 1-4$) are reported. 18 references.

CC 29 (Organometallic and Organometalloidal Compounds)

ST SILANES PENTAFLUOROPHENYL; FLUORO AROM SILANES

IT 1206-46-8P 1524-78-3P 17067-69-5P 17067-70-8P 17067-71-9P
17067-73-1P 17067-74-2P 17067-75-3P 17067-76-4P

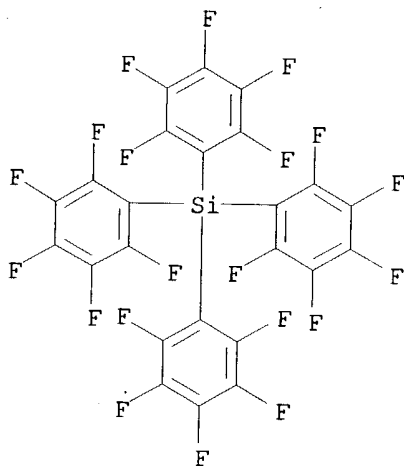
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 1524-78-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 1524-78-3 HCAPLUS

CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L60 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1965:498496 HCAPLUS

DN 63:98496

OREF 63:18136a-b

TI Pentafluorophenyl organometallic compounds of group IV elements

AU Tamborski, C.; Soloski, E. J.; Dec, S. M.

CS Wright Patterson Air Force Base, Dayton, OH

SO Journal of Organometallic Chemistry (1965), 4(6), 446-54

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA English

AB The synthesis of pentafluorophenyl group IV elements (C₆F₅)₄Si, (C₆F₅)₄Ge, (C₆F₅)₄Sn, (C₆F₅)₄Pb, (C₅H₅)₂Ti (C₅F₅)₂ and (C₆H₅)₂Zr(C₆F₅)₂ is reported. The above compounds are prepared through the reaction of the appropriate metal halide and pentafluorophenyllithium. The various pentafluorophenyl derivatives are subjected to the following studies: infrared and vapor phase chromatography analysis, acid and base hydrolysis, thermal stability, and reactions with bromine and lithium.

CC 39 (Organometallic and Organometalloidal Compounds)

IT Organometallic compounds
(heterocyclic)

IT Heterocyclic compounds
(metal complexes)

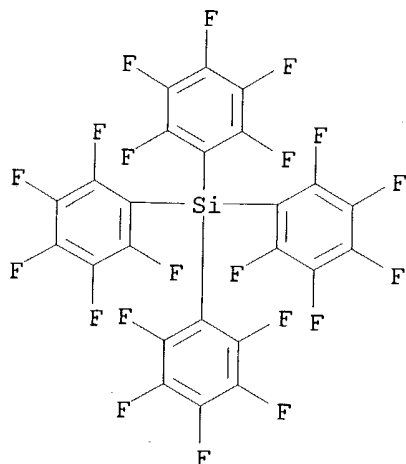
IT Spectra, infrared
(of tetrakis(pentafluorophenyl) derivs. of Group IV elements)

IT 1065-49-2, Tin, tetrakis(pentafluorophenyl)- 1111-02-0, Lead, tetrakis(pentafluorophenyl)- 1452-12-6, Germane, tetrakis(pentafluorophenyl) 1524-78-3, Silane, tetrakis(pentafluorophenyl)- 12097-97-1, Zirconium, dicyclopentadienylbis(pentafluorophenyl)- 12155-89-4, Titanium, dicyclopentadienylbis(pentafluorophenyl)-
(preparation of)

IT 1524-78-3, Silane, tetrakis(pentafluorophenyl)-
(preparation of)

RN 1524-78-3 HCAPLUS

CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L60 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1964:17001 HCAPLUS

DN 60:17001

OREF 60:3009f-g

TI Tetrakis(pentafluorophenyl)silane

IN Pummer, Walter J.; Wall, Leo A.

PA United States Dept. of the Navy

SO 1 p.

DT Patent

LA Unavailable

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI US 3109855

19631105

US

19610626

AB Division of U.S. 3,046,313 (CA 57, 15003a). Pentafluorobromobenzene (I) is converted to the Grignard reagent and the Grignard reagent is treated with SiCl_4 to give the title compound, which can be used as a fuel-resistant substance. I (24.7 g.) and a small crystal of iodine are added to a mixture of 2.4 g. Mg in 50 ml. anhydrous ether, the mixture cooled to 0° , 2.83 ml. SiCl_4 added, the mixture agitated 1 hr. at 0° , refluxed 2.5 hrs., and allowed to cool overnight. The mixture is poured into 100 ml. 6N HCl, and the precipitate obtained separated, dried, and sublimed at 208° at 1 mm. to give 5.5 g. tetrakis(pentafluorophenyl)silane, m. $246-8^\circ$, 32% yield.

NCL 260448200

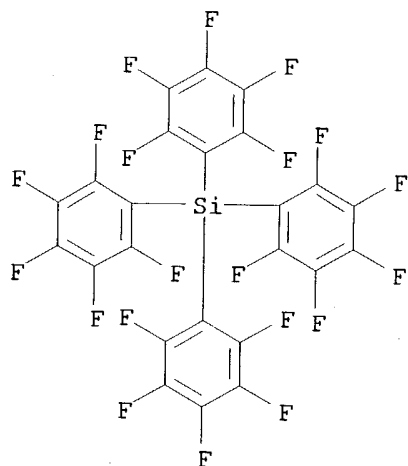
CC 39 (Organometallic and Organometalloidal Compounds)

IT 1524-78-3, Silane, tetrakis(pentafluorophenyl)-
(preparation of)

IT 1524-78-3, Silane, tetrakis(pentafluorophenyl)-
(preparation of)

RN 1524-78-3 HCAPLUS

CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L60 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1962:475681 HCAPLUS

DN 57:75681

OREF 57:15003a-f

TI Pentafluoriodobenzene

IN Pummer, Walter J.; Wall, Leo A.

PA U.S. Dept. of the Navy

SO 3 pp.

DT Patent

LA Unavailable

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI US 3046313

19620724

US

19600503

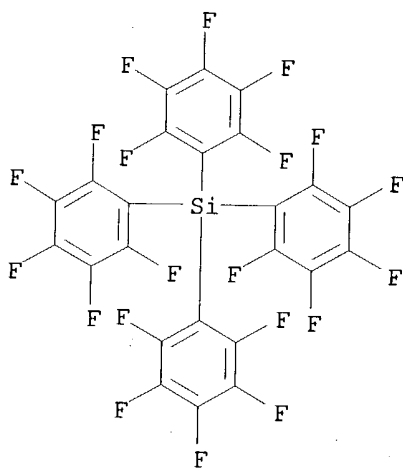
AB Pentafluoriodobenzene (I), an intermediate in the preparation of perfluorophenyl derivs., was prepared from pentafluorobromobenzene (II) via the Grignard reagent or by iodination of pentafluorobenzene (III). Thus, to a refluxing solution of the Grignard reagent from 10 g. II and 1 g. Mg in 10 ml. Et₂O was added 9.76 g. F₂C₁CC₂HF₁ in 5 ml. Et₂O, the mixture refluxed 3 hrs., let stand overnight, 50 ml. 6N HCl added, the Et₂O layer separated, dried, and distilled to give 5.78 g. I, b₃₅ 77-8°, n_D 1.4990. In another example the same amount of Grignard-reagent solution was treated at 0° with 12.4 g. F₂C:CFI, the mixture stirred 1 hr., refluxed 2 hrs., and worked up as before to yield 1 g. I. I was also prepared by adding 255 g. mixture of 45% hexafluorobenzene, 40% III, and 10% tetrafluorobenzene to 200 g. iodine in 1 kg. 65% oleum. The mixture was stirred 4 hrs. at 55-60°, let cool overnight, then in an ice bath, diluted with 2 l. ice H₂O, decolorized with aqueous NaHSO₃, and separated The crude I (177 g.)

was

dried and distilled to give 36 g. I. Condensation of II in the presence of Cu powder at 180-90° 48 hrs. then at 290° 6 hrs. gave 87% (C₆F₅)₂, sublimed at 50°/1 mm., m. 67.5-68°. I (5 g.) and 1.6 g. CuCN heated to 150° in 1.34 g. C₅H₅N, cooled to 100°, and distilled gave 3.07 g. crude C₆F₅CN (IV), b. 18590°, n_D 1.4764. Hydrolysis of IV with 75% H₂SO₄ at 180° gave 16% C₆F₅CO₂H, m. 101-3°. To the Grignard reagent from 10 g. II was added 6.6 g. AcH at 0°, the solution stirred 1 hr. at 0°, decomposed with 50 ml. 6N HCl, the Et₂O layer separated, dried, and distilled to give 81% C₆F₅CHMeOH

(V), b37 80-2°, n20D 1.4426. To the Grignard reagent from 24.7 g. II in 50 ml. Et2O was added 4.25 g. SiCl4 at 0°, the mixture stirred 0.5 hr. at 0° refluxed 2.5 hrs., let cool overnight, poured into 100 ml. 6N HCl, and filtered. The solid was sublimed at 208°/1 mm. to give 32% (C6F5)4Si, m. 246-8°. To the Grignard reagent from 30 g. II in 0.75 ml. Et2O was added 5.0 g. PCl3 in 20 ml. Et2O in an ice bath, the mixture let stand at room temperature 15 min., hydrolyzed with 40 ml. cold 10% HCl, the Et2O layer separated, dried, and concentrated Sublimation at 100-30° under reduced pressure gave 39.5% (C6F5)3P (VI), m. 114-15°. Oxidation of 2.0 g. VI by refluxing in 10 g. Na2Cr2O7, 25 ml. H2O, 10 ml. concentrated H2SO4, and 25 ml. AcOH gave, after neutralization and extraction with CHCl3, 2 g. (C6F5)3PO, m. 167-8°. Pyrolysis of 2 g. V over Al2O3 at 345-50° gave, after distillation, 0.6 g. C6F5CH: CH2, b. 140-1°, n20D 1.4414.

- CC 29 (Noncondensed Aromatic Compounds)
 IT Benzene, tetrabromo-
 (manufacture of)
 IT 608-71-9, Phenol, pentabromo-
 (manufacture of)
 IT 87-82-1, Benzene, hexabromo- 108-72-5, 1,3,5-Benzenetriamine 434-90-2,
 Biphenyl, decafluoro- 602-94-8, Benzoic acid, pentafluoro- 653-34-9,
 Styrene, 2,3,4,5,6-pentafluoro- 773-82-0, Benzonitrile, pentafluoro-
 827-15-6, Benzene, pentafluoroiodo- 830-50-2, Benzyl alcohol,
 2,3,4,5,6-pentafluoro- α -methyl- 1259-35-4, Phosphine,
 tris(pentafluorophenyl)- **1524-78-3**, Silane,
 tetrakis(pentafluorophenyl)- 2729-11-5, Phosphine oxide,
 tris(pentafluorophenyl)- 13654-09-6, Biphenyl, decabromo- 27858-07-7,
 Biphenyl, octabromo- 90823-46-4, Aniline, tetrabromo-
 (preparation of)
 IT **1524-78-3**, Silane, tetrakis(pentafluorophenyl)-
 (preparation of)
 RN 1524-78-3 HCAPLUS
 CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L60 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1961:93280 HCAPLUS
 DN 55:93280
 OREF 55:17557a-c

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

TI Preparation and thermal stability of tetrakis(pentafluorophenyl)silane and tris(pentafluorophenyl)phosphine

AU Wall, Leo A.; Donadio, Robert E.; Pummer, Walter J.

CS Natl. Bur. of Standards, Washington, DC

SO Journal of the American Chemical Society (1960), 82, 4846-4848
CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB To C6F5MgBr (from 24.7 g. C6F5Br, 2.43 g. Mg and 50 ml. dry Et2O) was added dropwise 4.25 g. SiCl4 at 0°, the whole stirred 1 hr. at 0° and refluxed 3 hrs. to give 32% (C6F5)4Si (I), m. 248-50° (sublimation at 208°/1 mm. followed by recrystn. from Me2CO-C6H6), λ 6.57, 7.72, 9.1, 10.26 μ. Attempts to prepare (C6F5)2SiCl2 by this procedure gave some I and tars. The same procedure gave 39.5% (C6F5)3P (II), m. 116-17°, λ 6.08, 6.57, 6.78, 10.25 μ, λMeOHmax. 253 mμ (ε = 10,400). II (2.0 g.), 10 g. Na2CrO7, 25 ml. H2O, 10 ml. concentrated H2SO4, and 25 ml. AcOH refluxed 6 hrs. gave 2.0 g. (C6F5)3PO (III), m. 169-70° (petr. ether), λ 6.08, 6.59, 6.75, 8.15, 10.15 μ; λMeOHmax. 2.75, 250 mμ (ε = 2600, 730). The thermal stability of I, II, III, Ph2 (IV), (C6F5)2 (V), Ph4Si (VI), and Ph3P (VII) at 200-660° indicated the following order: V ≥ IV > VI ≥ I > II > VII > III.

CC 10E (Organic Chemistry: Benzene Derivatives)

IT Phosphine, diphenylpiperidino-

IT 1259-35-4, Phosphine, tris(pentafluorophenyl)- **1524-78-3**, Silane, tetrakis(pentafluorophenyl)- 2729-11-5, Phosphine oxide, tris(pentafluorophenyl)- (preparation and thermal stability of)

IT 35259-94-0, Phosphine sulfide, diphenylpiperidino- (preparation of)

IT 92-52-4, Biphenyl 434-90-2, Biphenyl, decafluoro- 603-35-0, Phosphine, triphenyl- 1048-08-4, Silane, tetraphenyl- (thermal stability of)

IT **1524-78-3**, Silane, tetrakis(pentafluorophenyl)- (preparation and thermal stability of)

RN 1524-78-3 HCAPLUS

CN Silane, tetrakis(pentafluorophenyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

